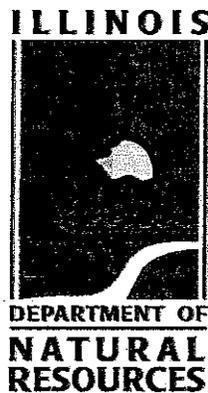


Version Two

**General Surface Mine Supervisor
And
Independent Contractor Supervisor
Study Guide**



**State of Illinois
Department of Natural Resources
Office of Mines Minerals**

pendant type lighting fixtures even though the fixtures are suspended from the ceiling by a portable cord;
 electric welders which are installed in a fixed location and are wired with a permanent wiring method;
 electric pumps which are installed in a fixed location in a preparation plant and are wired with a permanent wiring method; and
 a skid mounted substation which is installed and grounded in a permanent manner and receives its power directly from an overhead power line.

(Source: Amended at 13 Ill. Reg. 5955, effective April 18, 1989)

Section 220.20 Surface Installations

a) Surface Installations; General.

- 1) All mine structures, enclosures, equipment, and other facilities (including coal preparation plants, facilities used in the work of preparing coal, construction areas, offices, shops, docks, garages, and laboratories) shall be maintained in good repair to prevent accidents and injuries to miners.
- 2) The methane content in the air of any coal handling or storage facility shall be maintained at less than 1.0 volume per centum. At any time, the air in any structure, enclosure, or other facility shall contain not less than 19.5 volume per centum of oxygen, not more than 0.5 volume per centum of carbon dioxide, and no harmful quantities of other noxious or poisonous gases; and the volume of air shall be sufficient to dilute, render harmless, and to carry away flammable, explosive, noxious, and harmful gases and smoke.

b) Tests for methane; qualified person; use of approved device.

Tests for oxygen deficiency or for methane in structures, enclosures, or other facilities in which coal is handled or stored shall be made by a person qualified to conduct such tests, and shall be made with a flame safety lamp or other device approved by the Department. Such tests shall be conducted at least (once (1)) during each operating shift, and immediately prior to any repair work in which welding or an open flame is used, or a spark may be produced.

c) Dust accumulations in surface installations.

Coal dust in the air of, or in, or on the surfaces of, structures, enclosures, or other facilities shall not be allowed to exist or accumulate in dangerous amounts.

d) Use of material or equipment overhead; safeguards; warning signs.

Where overhead repairs are being made at surface installations or on surface equipment, and equipment or material is taken into such overhead work areas, adequate protection shall be provided for all persons working or passing below the overhead work areas in which such equipment or materials is being used.

Warning signs shall be posted prominently in the area, which signs shall state "Danger-Men Working Above" or the equivalent.

e) Openings in surface installations; safeguards.

Openings in surface installations through which men or material may fall shall be protected by railings, barriers, covers, or other protective devices.

(1) Travelways at surface installations.

1) Safe means of access shall be provided and maintained to all working places.

(2) Travelways and platforms or other means of access to areas where persons are required to travel or work, shall be kept clear of all extraneous material and other stumbling or slipping hazards.

3) Inclined travelways shall be constructed of nonskid material or equipped with cleats.

4) Regularly used travelways shall be sanded, salted, or cleared of snow and ice as soon as practicable.

(5) Crossovers, elevated walkways, elevated ramps, and stairways shall be of substantial construction, provided with handrails, and maintained in good condition. Where necessary to insure safety, toe boards shall be provided.

(6) Crossovers shall be provided where it is necessary to crossover conveyors.

(7) Moving conveyors shall be crossed only at designated crossing points.

(8) Crossing under unguarded moving conveyors where contact is possible is prohibited.

g) Ladders; scaffolding; construction; condition, installation, and maintenance.

1) General requirements: ladders & scaffolding.

A) Ladders and scaffolding equipment shall be of substantial construction and maintained in good safe, suitable, and proper condition.

B) Wooden members of ladder shall not be painted.

C) Rungs shall be kept free of grease and oil.

2) Portable ladders; construction, use, and maintenance.

A) Portable ladders shall be so placed as to prevent slipping, or they shall be lashed or held in position. Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds.

B) On two (2)-section extension ladders, the minimum overlap for the two (2) sections in use shall be as follows:

SIZE OF LADDER (FEET)	OVERLAP (FEET)
Up to and including 36	3
Over 36 and up to and including 48	4
Over 48 and up to and including 60	5

- C) No ladder shall be used to gain access to a roof or platform unless the top of the ladder extends at least three (3) feet above the point of support, at eave, gutter, roof line, or platform.
 - D) Ladders shall be inspected before each use for broken rungs, split side rails, loose fastenings, decayed wood, or other defects. Ladders with defects shall not be used.
 - E) Portable aluminum ladders shall not be used when working on or near energized electrical equipment.
- 3) Fixed ladders.
- A) Steep, vertical, or any other ladder which inclines backwards at any point shall be anchored securely and provided with back guards or equivalent safety protection extending from a point not more than seven (7) feet from the bottom of the ladder to the top of the ladder.
 - B) Ladders shall extend at least three (3) feet above the landing or substantial handholds shall be provided above the landing.
 - C) Ladders shall be anchored securely and installed to provide at least three (3) inches of toe clearance.
 - D) Men climbing or descending ladders shall face the ladders and have both hands free for climbing.
- h) Scaffolding; general.
- 1) The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds.
 - 2) No scaffold shall be erected, moved, dismantled, or altered except under supervision of a person experienced in performing such work.
 - 3) Guardrails and toeboards shall be installed on all open sides and ends of platforms more than six (6) feet above the ground or floor.
 - 4) Scaffolds and their components shall be capable of supporting at least four (4) times the weight of the actual load.
 - 5) Any scaffold, including accessories such as braces, brackets, trusses, screw legs, and ladders, damaged or weakened from any cause shall be immediately repaired or replaced.
 - 6) All planking or platforms shall be overlapped (minimum twelve (12) inches) or secured from movement.
 - 7) Scaffold planks shall extend over their end supports not less than six (6) inches and not more than twelve (12) inches.
 - 8) The poles, legs, or uprights of scaffolds shall be securely and rigidly braced to prevent swaying and displacement.
 - 9) Overhead protection shall be provided for men on a scaffold exposed to overhead hazards.

- 10) Slippery conditions on scaffolds shall be eliminated prior to work being performed on such scaffolds.
- 11) o welding, burning, riveting, or open flame work shall be performed on any staging suspended by means of fiber or synthetic rope. Only treated or protected fiber or synthetic rope shall be used for or near any work involving the use of corrosive substances or chemicals.
- 12) Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting six (6) times the applied load.
- 13) Scaffolds shall otherwise be erected, constructed and maintained in manner consistent with the laws and regulations of the State of Illinois, including, without limitation, "An Act providing for the protection and safety of persons in and about the construction, repairing alteration, or removal of buildings, bridges, viaducts, and other structures, and to provide for the enforcement thereof" (Ill. Rev. Stat. 1981, ch. 48, pars. 60 et seq.)
 - i) Illumination.
Illumination sufficient to provide safe working conditions shall be provided in and on all surface structures, paths, walkways, stairways, switch panels, loading and dumping sites, and working areas.
 - j) Testing for leaking; compressed gas cylinders.
Tests for leaks on the hose valves or guages of liquefied and nonliquefied compressed gas cylinders shall only be made with a soft brush and soapy water or soap suds.
 - k) Storage of materials.
 - 1) Materials shall be stored and stacked in a manner which minimizes stumbling or fall-off-material hazards.
 - 2) Materials that can create hazards if accidentally liberated from their containers shall be stored in a manner that minimizes the dangers.
 - 3) Hazardous materials shall be stored in containers of a type approved for such use by recognized agencies; such containers shall be labeled appropriately.
 - 4) All compressed gas cylinders, including oxygen cylinders, and liquid gas cylinders, including acetylene cylinders, shall be secured in a safe manner, and shall be stored in an upright position. *empty*
 - 5) Valves on compressed gas cylinders shall be protected by covers when being transported or stored, and by a safe location when the cylinders are in use.
- l) Surge bins and storage or surge piles.
No person shall be permitted to walk or stand immediately above a reclaiming area or in any other area at or near a surge bin or storage or surge pile, where the reclaiming operation may expose him to a hazard.
- m) Hoisting of materials; rigging equipment for material handling.

Wet-coal bins feeding thermal drying systems shall be equipped with both audible and visual low-coal-level indicators.

- p) Automatic temperature control instruments.
- 1) Automatic temperature control instruments for thermal dryer system shall be of the recording type.
 - 2) Automatic temperature control instruments shall be locked or sealed to prevent tampering or unauthorized adjustment. These instruments shall not be set above the maximum allowable operating temperature.
 - 3) All dryer control instruments shall be inspected and calibrated at least once (1) every three (3) months and a record or certificate of accuracy, signed by a person qualified to inspect and calibrate such instruments shall be kept at the plant.
- q) Thermal dryers; examination and inspection.
Thermal dryer systems shall be examined for fires and coal-dust accumulations, if the dryers are not restarted promptly after a shutdown.

Section 220.40 Safeguard For Mechanical Equipment

- a) Mechanical equipment guards.
- 1) Gears, sprockets, chains, drive, head, tail, and take-up pulleys, flywheels, couplings, shafts, sawblades, fan inlets, protruding set screws on revolving parts, and similar exposed moving machine parts which may be contacted by persons, and which may cause injury to persons shall be guarded. Guards shall be sufficiently strong and maintained to provide the required protection.
 - 2) Overhead belts shall be guarded if the whipping action from a broken line would be hazardous to persons below.
 - 3) Guards at conveyor-drive, conveyor-head, and conveyor-tail pulleys shall extend a distance sufficient to prevent a person from reaching behind the guard and becoming caught between the belt and the pulley.
 - 4) Except when testing the machinery, guards shall be securely in place while machinery is being operated.
- b) Stationary grinding machines; protective devices.
- 1) Stationary grinding machines other than special bit grinders shall be equipped with:
 - A) Peripheral hoods (less than ninety degrees (90°) throat openings) capable of withstanding the force of a bursting wheel;
 - B) Adjustable tool rests set as close as practical to the wheel; and
 - C) Safety washers.
 - 2) Grinding wheels shall be operated within the specification of the manufacturer of the wheel.
 - 3) Face shields or goggles, in good condition shall be worn when operating a grinding wheel.

- c) Tools-hand and power; general requirements.
- 1) All hand and power tools shall be maintained in safe condition. Defective tools shall be removed from service.
 - 2) Hand-held power tools shall be equipped with controls requiring constant hand or finger pressure to operate the tools or shall be equipped with ~~friction or other equivalent safety devices as approved by an authorized representative of the Mining Board.~~
- d) Power-operated hand tools.
- 1) Electric power-operated tools.
 - A) Electric power-operated tools shall either be a double-insulated type approved by a nationally recognized testing laboratory or shall be grounded in accordance with Section 220.70 of this Part. Where such an approved double-insulated power-operated tool is employed, it shall be distinctly marked.
 - B) Electric cords shall not be used for hoisting or lowering tools.
 - 2) Pneumatic power tools.
 - A) Safety clips or retainers shall be securely installed on pneumatic impact tools to prevent attachments from being accidentally ejected.
 - B) All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed which operates at more than one hundred (100) P.S.I., at the tool, shall have a safety device on the muzzle to prevent the tool from ejecting fasteners unless the muzzle is in contact with the work surface.
 - C) Hoses shall not be used for hoisting or lowering tools.
 - 3) Fuel-powered tools.

All fuel-powered tools shall be stopped while being refueled, serviced, or maintained, and fuel shall be transported, handled and stored in accordance with Section 220.110(d) of this Part, and all other applicable state and federal statutes, and rules.
 - 4) Power-actuated tools.
 - A) Only employees who have been instructed in the safe operation of the particular tool being used shall be permitted to operate a power-actuated tool.
 - B) The tool shall be tested each day before loading to see that the safety devices are in safe working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.
 - C) Tools shall not be loaded until immediately prior to the intended firing time. Neither loaded nor empty tools are to be pointed at other personnel.

- B) U.S. Army Corps of Engineers: Safety-General Safety Requirements, EM-385-1-1 (March 1967);
 - C) Bureau of Reclamation, U.S. Department of the Interior: Safety and Health Regulations for Construction, Part II (September 1971); and
 - D) Occupational Safety and Health Administration, U.S. Department of Labor: Safety and Health Regulations for Construction, 29 CFR 1926.1001 and 1926.1002.
- 5) Field welding on ROPS shall be performed by welders who are certified by the coal mine operator or equipment distributor as being qualified in accordance with the American Welding Society Structural Welding Code AWS D1.1-73, or Military Standard MIL-STD 248, or the equivalent thereof.
- 6) Seat belts required by Section 220.170(k)(9) shall be worn by the operator of mobile equipment required to be equipped with ROPS by this Section.
- g) Machinery and equipment; operation, maintenance, and examination.
- 1) Mobile and stationary equipment shall be properly maintained to assure safe operating conditions. The operator of such equipment shall report any dangerous equipment defect to the mine operator. When such condition is reported, the mine operator shall take immediate action to investigate the report, and when such equipment defect is found, the equipment shall be removed from service until the defect is corrected.
- 2) All over-head hoists shall be secured by safety chains, ropes, or other safety devices so that in the event they become separated from the carriage track, they shall not fall.
- 3) The ends of all stationary and all movable carriage rails shall be equipped with safety stops at each end.
- A) This includes all carriage rails that are part of the system regardless if a hoist is or is not suspended from the rail at time of inspection.
 - B) A means shall be provided to secure the traveling bridge to assure that the movable rail will remain in place when both a movable rail and a stationary rail are being utilized to suspend the hoist. Hoisting equipment shall be closely examined to also make certain:
 - i) The the hoist is securely fastened to the dolly or other support;
 - ii) That the dolly rides the I-beam without excessive side play;
 - iii) That the hoist has proper operating controls that allow the hoist to be operated from a safe position. Under no condition, shall a person or persons position themselves under a suspended load. Taglines shall be used to position or to guide loads;
 - iv) That the dolly or hoist does not contain bent or defective parts or defective ropes or chains;

- 2) When air arcing and arc cutting is being performed, every precaution should be taken to minimize the effects of noise, dust, and smoke on men working in the area.
- 3) Components of hoists shall not be used as welding grounds.
- (l) Shovels, draglines, and tractors.
 - (1) Shovels, draglines, and tractors (shall not be operated in the presence of any person exposed to a hazard from its operation and all such equipment shall be provided with an adequate warning device which shall be sounded by the operator prior to starting operation.)
 - (2) Shovels and draglines shall be equipped with handrails along and around all walkways and platforms.
- (m) Mobile equipment; automatic warning devices.

Mobile equipment, such as trucks, forklifts, front-end loaders, tractors and graders, shall be equipped with an adequate automatic warning device which shall give an audible alarm when such equipment is put in reverse. NOT PICK UP TRUCK
- n) Compressed air and boilers; general.

All boilers and pressure vessels shall be constructed, installed, and maintained in accordance with the standards and specifications of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.
- o) Compressed air systems.
 - 1) Compressors and compressed-air receivers shall be equipped with automatic pressure-relief valves, pressure gauges, and drain valves.
 - 2) Repairs involving the pressure system of compressors, receivers, or compressed-air-powered equipment shall not be attempted until the pressure has been relieved from that part of the system to be repaired.
 - 3) At no time shall compressed air be directed toward a person. When compressed air is used, all necessary precautions shall be taken to protect persons from injury.
 - 4) Safety chains or suitable locking devices shall be used at connections to machines of high-pressure air hose lines of one (1) inch inside diameter or larger, and between high-pressure air hose line of one (1) inch inside diameter or larger, where a connection failure would create a hazard.
- p) Boilers.
 - 1) Boilers shall be equipped with guarded, well-maintained water gauges and pressure gauges placed so that they can be observed easily. Water gauges and pipe passages to the gauges shall be kept clean and free of scale and rust.
 - 2) Boilers shall be equipped with automatic pressure-relief valves; valves shall be opened manually at least once (1) a week to determine that they will function properly.

- 5) All open conductors within surface structures shall closely follow the surface of the building and be installed on proper insulators which support the wires at least every four and one-half (4 1/2) feet.
- bb) Equipment marking.
All electrical equipment purchased or rebuilt after the effective date of these rules shall be provided with a plate which indicates the manufacturer's name, rated voltage, current, horsepower, frequency, number of phases, and duty cycle.
- cc) Protection of power cables.
All power cables and wiring shall be adequately protected against mechanical damage. If a cable is damaged to the extent that the outer jacket will not exclude moisture, or if the conductors or metallic shielding are exposed, the cable jacket shall be repaired to the same degree of protection as the remainder of the cable.
- dd) Identification.
Circuit breakers, disconnects, control switches, and push buttons shall be marked to show which circuit they control, unless identification can be made readily by location.

Section 220.60 Trailing Cables

- a) Trailing cables; ampacity.
All trailing cables shall meet the minimum requirements for construction and ampacity provided in the Standards of the Insulated Power Cable Engineers Association-National Electric Manufacturers Association in effect when such cables are purchased.
- b) Trailing cables; short-circuit, grounded phase protection, and disconnecting devices.
Short-circuit protection for trailing cable shall be provided by a circuit breaker or other no less effective device of adequate current-interrupting capacity in each ungrounded conductor. One (1) breaker may protect multiple cables if the amperage setting on the breaker is set to the lowest amperage setting of the smallest circuit. Disconnecting devices shall be installed in conjunction with each circuit breaker and within three thousand (3,000) feet of each mobile machine. Such disconnecting devices used to connect power from trailing cables shall be plainly marked and identified and such devices shall be equipped or designed in such a manner that it can be determined by visual observation that the power is disconnected.
- c) Short-circuit protection; ratings and settings of circuit breakers.
Circuit breakers providing short-circuit protection for trailing cables shall be set at not more than eighty (80) percent of the short-circuit capability of the system. The maximum time for clearing a short circuit shall not exceed that cable time current rating specified by the Insulated Power Cable Engineers Association higher settings may be permitted by an authorized representative of the Department when he has determined that higher settings are justified.

- d) Design of trailing cable for low and medium voltage three (3) phase equipment.
All trailing cables supplying power to equipment from low and medium-voltage systems purchased after effective date shall contain two (2) or more grounding conductors having a total cross-sectional area of not less than one-half (1/2) the power conductor and grounded metallic shields around each power conductor. The metallic shielding shall meet the requirements for shielding provided by the Standards of the Insulated Power Cable Engineers Association-National Electrical Manufacturers Association for type SH or SHD portable power cables. Such trailing cables shall include an insulated conductor for the ground continuity check circuit except in circuits in which a no less effective device for ground check monitoring approved by the Department is being utilized.

c) Splicing of trailing cables.

- 1) When splices in trailing cables are made, they shall be:
 - A) Mechanically strong with adequate electrical conductivity,
 - B) Effectively insulated and sealed so as to exclude moisture, and
 - C) Vulcanized or otherwise made with suitable materials to provide good bonding to the outer jacket.
- 2) Splices made in trailing cables shall provide continuity of all components including the grounded metallic shielding.
- 3) Trailing cables or portable cables with exposed wires or splices that heat or spark under load shall not be used.

f) Securing of Trailing Cables to equipment.

Trailing cables shall be secured to machines in a manner to protect the cables from damage and to prevent strain on the electrical connections.

g) Protection of trailing cables.

Trailing cables shall be adequately protected to prevent damage by mobile equipment and placed to afford protection against rock slides and other falling objects. Surplus trailing cable to shovels, draglines, drills, and similar equipment shall be stored on reels mounted on the equipment or otherwise protected from mechanical damage. Damaged outer jackets of trailing cables shall be repaired to the same degree of protection as the remainder of the cable.

h) Breaking trailing cable and power cable connections.

- 1) Plugs and connectors in trailing cables and power cables shall not be connected or disconnected while the circuit is energized.

— (2) No power cable or electric circuit supplying power in excess of two hundred forty (240) volts will be energized or deenergized, hooked up or unhooked except by a person qualified under Section 220.50(e) of this Part to perform electrical work, or by a person trained to perform electrical work at the direction of a qualified person.

— (3) This requirement shall not be construed to include the energizing or deenergizing of a simple "on-off" switch on standard equipment, when

- trailing cables must contain an insulated conductor for the ground continuity check circuit if the circuit requires a conductor.
- 2) All high-voltage cables must be rated for the intended current and voltage. Splices made in such cables must provide continuity of all components and must meet the requirements of Section 220.60(e).
- h) Cable couplers and connection boxes; minimum design requirements.
- 1) Cable couplers; requirements.
 - A) Couplers that are used in medium or high-voltage power circuits must be of the three (3)-phase type and enclosed in a full metallic shell.
 - B) Cable couplers must be rated for the intended current and voltage.
 - C) The metallic shell of cable couplers must be grounded to the grounding conductor in the cable.
 - D) Couplers must be constructed in such manner so that the ground check monitoring conductor when required will break first and the grounding conductor will break last when being uncoupled.
 - 2) Connection Boxes
 - A) Cable connection boxes must be designed and constructed to guard all energized parts from personal contact.
 - B) The box lid/plate/ door must be interlocked so that the circuit will be deenergized when opened.
 - C) The current-carrying parts must be deenergized and discharged before performing any work inside such boxes, unless the particular load carrying cable is in an isolated compartment from the rest of the connection box. In this case, only the load carrying cable need be deenergized to be worked on or removed. While deenergizing and discharging the box, protective gloves must be worn.
- i) Connection of single-phase loads.
Single-phase loads must be connected phase-to-phase in resistance grounded systems.
- j) Installation of high-voltage transmission cables.
High-voltage transmission cables must be installed or placed so as to afford protection against damage. They must be placed to prevent contact with low-voltage or communication circuits.
- (k) High-voltage power lines; clearances above ground.
High-voltage power lines located above driveways, haulageways, and railroad tracks must be installed so as to provide the minimum vertical clearance as specified in Rule 232 of the National Electrical Safety Code published by the Institute of Electrical and Electronics Engineers, Inc., 345 E. 47th Street, New York, New York 10017 (1981). (The reference does not include any later amendments or editions.); provided, however, that in no event shall any

high-voltage power line be installed less than fifteen (15) feet above ground, walkways, or working areas.

- l) Booms and masts: minimum distance from high-voltage lines.

The booms and masts of equipment operated on the surface of any coal mine must not be operated within ten (10) feet of an energized overhead powerline. Where the voltage of overhead powerlines is sixty-nine thousand (69,000) volts, or more, the minimum distance from the boom or mast must be as follows:

Nominal Powerline Voltage (In 1,000 volts)	Minimum Distance Feet
69-114	12
115-229	15
230-499	25
500 or more	35

- m) Movement of equipment: minimum distance from high-voltage lines.

When any part of any equipment operated on the surface of any coal mine is required to pass under or by any energized high-voltage power line and the clearance between such equipment and powerline is less than that specified in subsection (l) for booms and masts, such power lines must be deenergized or other precautions must be taken.

- n) Operating of rear dump trucks under powerlines.

In cases where dump trucks are operated under powerlines, the minimum vertical clearance that must be maintained over dumping areas, must be five (5) feet more than the maximum height of the truck bed measured with the truck bed in the extreme raised position.

- o) Disconnecting devices.

Disconnecting devices must be installed at the beginning of each branch line in high-voltage circuits, except disconnecting devices in high-voltage transmission lines, which must be accessible and located as near as practicable to the entrance to the high-voltage stationary installations supplied from the overhead powerlines, and must be equipped or designed in such manner that it can be determined by visual observation that the circuit is deenergized when such devices are open.

- p) Identification of circuit breakers and disconnecting switches.

Circuit breakers and disconnecting switches must be labeled to show which units they control, unless identification can be made readily by location.

- q) High-voltage equipment grounding.

Low resistance ground fields used in high-voltage systems serving portable or mobile equipment must be separated from the other ground fields by twenty-five (25) feet or more.

- r) Movement of portable substation and transformers.

repose, or barriers, baffle boards, screens, or other devices be provided that afford equivalent protection; or a combination of the preceding be used to assure the safety of the workmen.

c) Box cuts; spoil material placement.

When box cuts are made, necessary precautions shall be taken to minimize the possibility of spoil material rolling into the pit.

d) Benches.

To insure safe operation, the width and height of benches shall be governed by the type of equipment to be used and the operation to be performed.

e) Ground control; inspection and maintenance; general.

1) Highwalls, banks, benches, and terrain sloping into the working areas shall be examined by a certified person at least once each working shift, and additionally after every rain, freeze, or thaw before men work in such areas. The examination of highwalls shall include the checking for cracks which may develop into slides. Such examinations shall be made and recorded in a book supplied by the operator and signed by the person making the examination in ink or indelible pencil. Such books shall be kept in a secure place and shall remain at the mine for a period of three (3) years.

2) Overhanging highwalls and banks shall be taken down and other observed unsafe ground conditions shall be corrected promptly and no persons shall enter the hazardous area except those engaged in making the corrections.

Adequate barricades or posting shall be used to keep all other persons out.

3) Men shall examine their working places before starting work and frequently thereafter and any unsafe condition shall be reported immediately to the supervisor.

f) Scaling highwalls; general.

Hazardous areas shall be scaled before any other work is performed in the hazardous area. When scaling of highwalls is necessary to correct conditions that are hazardous to persons in the area, a safe means shall be provided for performing such work.

g) Highwalls; men working.

1) Men, other than those necessary to correct unsafe conditions, shall not work near or under dangerous highwalls or banks.

2) Except as provided in subparagraph (g)(3) of this Section, persons shall not work between equipment and the highwall or spoil bank where the equipment may hinder escape from falls or slides.

3) Special safety precautions shall be taken when persons are required to perform repair work between immobilized equipment and the highwall or spoil bank and such equipment may hinder escape from falls or slides.

4) Should a slide occur, a certified person with knowledge of highwalls, will examine the area of the slide for danger of more slides, and no person will

maintain a record of such repairs. Such record must contain a notation of the time, date, location, and general nature of the repairs made, together with a copy of the information filed with the operator by the qualified person designated as responsible for performing such repairs.

x) Simultaneous repairs.

When two (2) or more persons are working on an energized high-voltage surface line simultaneously, and any one of them is within reach of another, such person must not be allowed to work on different phases or on equipment with different potentials.

y) Installation of protective equipment.

1) Before repair work on energized high-voltage surface lines is begun, protective equipment must be used to cover all bare conductors, ground wires, guys, telephone lines, and other attachments in proximity to the area of planned repairs. Such protective equipment must be installed from a safe position below the conductors or other apparatus being covered. Each rubber protective device employed in making repairs must have a dielectric strength of twenty thousand (20,000) volts or more and must comply with the provisions of the American Society for Testing and Materials (ASTM) 655 Fifteenth Street N.W.; Washington, D.C. 20005 as follows:

ITEM	ASTM STANDARD	DATE OF ADOPTION
Rubber Insulating gloves	D120-87	July 31, 1987
Rubber matting for use around electrical apparatus	D178-88	Nov. 29, 1987 Feb. 26, 1988
Rubber insulating blankets	D1048-88	Feb. 26, 1988
Rubber insulating hoods	D1049-83	June 24, 1983
Rubber insulating line hose	D1050-85	August 30, 1985
Rubber insulating sleeves	D1051-87	July 31, 1987

AGENCY NOTE: The standards do not include any later amendments or editions.

- 2) Protective equipment of material other than rubber must provide equal or better electrical and mechanical protection.
- 3) Only live line tool poles having a manufacturer's certification to withstand the following minimum tests shall be used:
 - A) One hundred thousand (100,000) volts per foot of length for five (5) minutes when the tool is made of fiberglass;
 - B) Seventy-five thousand (75,000) volts per foot of length for three (3) minutes when the tool is made of wood; or

- 4) Measuring tapes or measuring ropes containing metal must not be used when working on or near energized parts.
- z) Protective clothing; use and inspection.
 - 1) All persons performing work on energized high-voltage surface lines must wear protective rubber linemen's gloves, sleeves, and climber guards if climbers are worn. Protective rubber gloves must not be worn wrong side out or without protective leather gloves. Protective devices worn by a person assigned to perform repairs on high-voltage surface lines must be worn continuously from the time he leaves the ground until he returns to the ground and such person must visually inspect the equipment assigned him for defects before each use.
 - 2) All rubber protective equipment used for work on energized high-voltage surface lines must be electrically tested in accordance with the American National Standards Institute and the American Society for Testing and Materials Standards (ASTM), 655 Fifteenth Street N.W.; Washington, D.C. 20005 as follows:

ITEM	ASTM STANDARD	DATE OF ADOPTION
Rubber insulating gloves	D120-87	July 31, 1987
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AGENCY NOTE: The references do not include any later editions or references.

- aa) Protective equipment; inspection.
Each person must visually inspect protective equipment and clothing provided him in connection with work on high-voltage surface lines before using such equipment and clothing and any equipment or clothing containing any defect or damage must be discarded and replaced with proper protective equipment or clothing prior to the performance of any electrical work on such lines.
- bb) Protective equipment; testing and storage.
 - 1) All rubber protective equipment used on work on energized high-voltage surface lines must be electrically tested by the operator in accordance with subsection (z)(2) and such testing must be conducted in accordance with the following schedule:
 - A) Rubber gloves, once each month(except that gloves previously tested under Section 220.80(z)(2) that are not in use and have been

- 2) Men shall not hold the drill steel while collaring holes or rest their hands on the chuck or centralizer while drilling.
- l) Drill holes: guarding.
Drill holes large enough to constitute a hazard shall be covered or guarded.
- m) Jackhammers: operation: safeguards.
Men operating or working near jackhammers or jackleg drills, or other drilling machines shall position themselves so that they will not be struck or lose their balance if the drill steel breaks or sticks.
- n) Air drills: safeguards.
Air shall be turned off and bled from the air hoses before hand-held air drills are moved from one working area to another.

Section 220.110 Fire Protection

- a) Fire protection; training and organization.
Firefighting facilities and equipment shall be provided commensurate with the potential fire hazards at each structure, enclosure and other facility (including custom coal preparation) at the mine and the employees at such facilities shall be instructed and trained annually in the use of such firefighting facilities and equipment.
- b) Escape and evacuation: plan.
 - 1) Each operator of a mine shall establish and keep current a specific escape and evacuation plan to be followed in the event of a fire.
 - 2) All employees shall be instructed on current escape and evacuation plans, fire alarm signals, and applicable procedures to be followed in case of fire.
 - 3) Plans for escape and evacuation shall include the designation and proper maintenance of adequate means for exit from all areas where persons are required to work or travel including buildings and equipment and in areas where persons normally congregate during the work shift.
- c) Warning signs; smoking and open flame.
Signs warning against smoking and open flames shall be posted so they can be readily seen in areas or places where fire or explosion hazards exist.
- d) Flammable liquids; storage.
 - 1) Flammable liquids shall be stored in accordance with standards of the National Fire Protection Association. Small quantities of flammable liquids drawn from storage shall be kept in properly identified safety cans.
 - 2) Unburied flammable-liquid storage tanks shall be mounted securely on firm foundations. Outlet piping shall be provided with flexible connections or other special fittings to prevent adverse effects from tank settling.
 - 3) Fuel lines shall be equipped with valves to cut off fuel at the source and shall be located and maintained to minimize fire hazards.

4) Areas surrounding flammable-liquid storage tanks and electric substations and transformers shall be kept free from grass (dry), weeds, underbrush, and other combustible materials such as trash, rubbish, leaves and paper, for at least twenty-five (25) feet in all directions.

e) Accumulations of combustible materials.
Combustible materials, grease, lubricants, paints, or flammable liquids shall not be allowed to accumulate where they can create a fire hazard. *Area clear*

f) Internal combustion engines; fueling.
Internal combustion engines, except diesels, shall be shut off and stopped before being fueled.

g) Battery-charging stations; ventilation.
Battery-charging stations shall be located in well ventilated areas. Battery-charging stations shall be equipped with reverse current protection where such stations are connected directly to direct current power systems.

h) Belt conveyors.
Belt conveyors in locations where fire would create a hazard to personnel shall be provided with switches to stop the drive pulley automatically in the event of excessive slippage.

i) Firefighting equipment; requirements; general.
Each operator of a coal mine shall provide an adequate supply of firefighting equipment which is adapted to the size and suitable for use under the conditions present on the surface at the mine.

j) Type and capacity of fire-fighting equipment.
Firefighting equipment required under Section 220.110(i) shall meet the following minimum requirements:

1) Waterlines. Waterlines shall be capable of delivering fifty (50) gallons of water a minute at a nozzle pressure of fifty (50) pounds per square inch. Where storage tanks are used as source of water supply, the tanks shall be of one thousand (1,000) gallon capacity for each one thousand (1,000) tons of coal processed (average) per shift.

2) Fire extinguishers. Fire extinguishers shall be:

- A) Of the appropriate type for the particular fire hazard involved;
- B) Adequate in number and size for the particular fire hazard involved;
- C) Replaced immediately with fully charged extinguishers after any discharge is made from an extinguisher; and
- D) Approved by the Underwriter's Laboratories, Inc., or the Factory Mutual Research Corp., or other competent testing agency.

3) Fire hose. Fire hose and couplings shall meet the requirements of the Underwriter's Laboratories', Inc., or Factory Mutual Research Corporation's specification. Cotton or cotton-polyester jacketed hose shall be treated in accordance with the U.S. Department of Agriculture Forest

- 6) Vehicles transporting explosives and blasting agents shall be equipped with fire protection as recommended in Code 495, Section 20, National Fire Protection Association Handbook, 12th Edition, 1962.
- l) Examination and maintenance of firefighting equipment.
Firefighting equipment shall be maintained in a usable and operative condition. Fire extinguishers shall be examined at least once every six (6) months and the date of such examination shall be recorded on a permanent tag attached to the extinguisher. *test*
- m) Welding, cutting, soldering; use of fire extinguisher.
One (1) portable fire extinguisher shall be provided at each location where welding, cutting, or soldering with arc or flame is performed.
- n) Welding, cutting, or soldering with arc or flame; safeguards.
- 1) When welding, cutting, or soldering with arc or flame near combustible materials, suitable precautions shall be taken to insure that smoldering metal or sparks do not result in a fire.
- 2) Before welding, cutting, or soldering is performed in areas likely to contain methane, an examination for methane shall be made by a qualified person with a device approved for detecting methane. Examinations for methane shall be made immediately before and periodically during welding, cutting, or soldering and such work shall not be permitted to commence or continue in air which contains 1.0 volume per centum or more of methane.
- o) Fires used for warming.
Fires used for warming purposes shall be enclosed to prevent persons from coming in contact with flame or coals which would ignite clothing. Oily or easily ignited clothing shall not be worn where ignition hazards are present.
- p) Buildings where flammable materials are stored.
Buildings or rooms in which oil, grease, flammable liquids, or similar flammable materials are stored shall be of fire-resistant construction and well ventilated. Provisions shall be made to control spilled flammable liquids.
- q) Storage of Combustible Materials.
Materials, such as oily waste and rags, which are subject to spontaneous combustion shall be placed in tightly covered metal containers until disposed of properly.
- r) Flammable Solvents; Transportation.
When flammable solvents are used for cleaning, such solvents shall be transported in labeled safety cans of not over five (5) gallon capacity. When used to clean parts, the containers used shall have tight-fitting covers. No cleaning may be done with flammable solvents near a possible source of ignition.
- s) Oxygen cylinders; storage.
Oxygen cylinders shall not be stored near oil or grease storage.
- t) Gauges and regulators.

- c) Auger holes; restriction against entering.
No person shall be permitted to enter an auger hole except with the approval of an authorized representative of the Department, which representative has inspected such hole and has determined that it is safe for entering.
- d) Augering equipment; overhead protection.
- 1) Auger machines which are exposed to highwall hazards together with all those parts of any coal elevating conveyors where persons are required to work during augering operation, shall be covered with heavy gauge screen which does not obstruct the view of the highwall and is strong enough to prevent injuries to workmen from falling material.
 - 2) No work shall be done under any overhang and when a crew is engaged in connecting or disconnecting auger sections under a highwall, at least one (1) person shall be assigned to observe the highwall for possible movement.
- e) Auger equipment; operation.
- 1) Persons shall be kept clear of the auger train while it is in motion and shall not be permitted to pass under or over an auger train, except where adequate crossing facilities are provided.
 - 2) Persons shall be kept clear of auger sections being swung into position.
 - 3) No person, including the auger machine operator, shall, where practicable, be stationed in direct line with a borehole during augering operations.
 - 4) Operators of auger equipment shall not leave the controls of such equipment while the auger is in operation.
 - 5) Adequate illumination shall be provided for work areas after dark.
- (f) Auger holes; blocking.
All Auger holes shall be blocked with highwall spoil or other suitable material before they are abandoned.
- g) Highwall; vicinity of augering equipment.
No work shall be done on the highwall in the vicinity of augering equipment while it is in operation.
- h) Maps.
- 1) Two (2) or more adjacent mines shall not be intersected without the express approval of the Mining Board. If two (2) or more companies make such a request for approval of such a project, a plan for intersecting such mines shall be submitted to the Mining Board for approval. Such plan shall specify the reasons for the proposed intersection, and shall include information regarding the following:
 - A) Whether the mines proposed to be intersected are surface, shaft or auger mines;
 - B) Whether there is any water impounded at the affected existing mines;

of Illinois with a registration number legibly printed on the legend, which must include a complete description of location of the mining.

Section 220.160 Loading and Haulage

a) Loading and haulage: general.

- 1) Only authorized persons shall be permitted on haulage roads and at loading or dumping locations.
- 2) Traffic rules, signals, and warning signs shall be standardized at each mine and posted.
- 3) Where side or overhead clearances on any haulage road or at any loading or dumping location at the mine are hazardous to mine workers, such areas shall be conspicuously marked and warning devices shall be installed when necessary to insure the safety of the workers.
- 4) All active access and haulage roads will be kept in safe condition, reasonably free of holes, mud, snow, ice, and other dangerous conditions.
- 5) All two (2)-way haulage roads will be constructed so they will have a running surface a minimum of three (3) times the width of the widest piece of haulage equipment traveling the road, including all ramps and inclines into the pit.
- 6) When haulage roads cross a road used by the public, two hundred (200) feet of unobstructed vision from the intersection must be maintained for mobile equipment and all other vehicles used by mine personnel. Traffic controls shall be established at the intersection.
- 7) Where adequate visibility is not provided, and where deemed necessary by a representative of the Department, a signal light shall be installed where a haulage road crosses railroad tracks.

b) Transportation of persons; restrictions.

No person shall be permitted to ride or be otherwise transported on or in the following equipment whether loaded or empty:

- 1) Dippers, shovels, buckets, forks, and clamshells;
- 2) The cargo space of dump trucks or haulage equipment used to transport coal or other material;
- 3) Outside the cabs and beds of mobile equipment;
- 4) Chain, belt, or bucket conveyors, except where such conveyors are specifically designed to transport persons; and
- 5) Loaded buckets on aerial tramways.

c) Use of aerial tramways to transport persons.

Persons other than maintenance men shall not ride empty buckets on aerial tramways unless the following features are provided:

- 1) Two (2) independent brakes, each capable of holding the maximum load;
- 2) Direct communication between terminals;

- 3) Power drives with emergency power available in case of primary power failure; and
 - 4) Buckets equipped with positive locks to prevent accidental tripping or dumping.
- d) Trains and locomotives; authorized persons.
- 1) Only authorized persons shall be permitted to ride on trains or locomotives and they shall ride in a safe position.
 - 2) Men shall not get on or off moving equipment, except that trainmen may get on or off of slowly moving trains.
- e) Transportation of persons; overcrowding.
- 1) No man-trip vehicle or other conveyance used to transport persons to and from work areas at surface coal mines shall be overcrowded and all persons shall ride in a safe position.
 - 2) Supplies, materials, and tools other than small handtools shall not be transported with men in man-trip vehicles unless such vehicles are specifically designed to make such transportation safe.
 - 3) Man-trip vehicles shall be provided with adequate heat, ventilation, and maintained so as to provide the best possible protection of the riders.
 - 4) At no time will man-trip vehicles hauling riders exceed forty (40) miles per hour.
 - 5) Each man-trip compartment shall have two (2) separate means of escape.
- f) Loading and haulage equipment; installations.
- 1) Cab windows shall be of safety glass or equivalent, in good condition and shall be kept clean.
 - 2) Mobile equipment shall be equipped with adequate brakes, and all trucks and front-end loaders shall also be equipped with parking brakes.
 - 3) Positive-action type brakes shall be provided on aerial tramways.
 - 4) Mobile equipment shall be provided with audible warning devices. Lights shall be provided on both ends when required.
 - 5) Guard nets or other suitable protection shall be provided where tramways pass over roadways, walkways, or buildings.
 - 6) Guards shall be installed to prevent swaying buckets from hitting towers.
 - 7) Aerial tramway cable connections shall be designed to offer minimum obstruction to the passage of wheels.
 - 8) Rocker-bottom or bottom-dump cars shall be equipped with positive locking devices, or other suitable devices.
 - 9) Ramps and dumps shall be of solid construction, of ample width, have ample clearance and headroom, and be kept reasonably free of spillage.
 - 10) Chute-loading installations shall be designed so that the men pulling chutes are not required to be in a hazardous position during loading operations.
 - 11) Berms or guards shall be provided on the outer bank of elevated roadways.

Mid
Axel

- (12) Berms, bumper blocks, safety hooks, or similar means shall be provided to prevent overtravel and overturning at dumping locations.
- 13) Roadbeds, rails, joints, switches, frogs, and other elements on railroads shall be designed, installed, and maintained in a safe manner consistent with the speed and type of haulage.
- 14) Where practicable, a minimum of thirty (30) inches continuous clearance from the farthest projection of moving railroad equipment shall be provided on at least one (1) side of the tracks; all places where it is impossible to provide thirty (30) inch clearance shall be marked conspicuously.
- 15) Track guardrails, lead rails, and frogs shall be protected or blocked so as to prevent a person's foot from becoming wedged.
- 16) Positive-acting stop-blocks, derail devices, track skates, or other adequate means shall be installed wherever necessary to protect persons from run-a-way or moving railroad equipment.
- 17) Switch throws shall be installed so as to provide adequate clearance for switchmen.
- 18) Where necessary, bumper blocks or the equivalent shall be provided at all track dead ends.
- 19) All coal cars will be inspected for broken steps, platforms, brake wheels and adequate brakes before handled by car droppers or load riders.
- 20) All railroad beds, rails, ties, joints, switches, frogs, and other elements on a railroad shall be kept clean of spilled coal, mud, weeds, and be provided with good drainage so ties can be visually inspected for decay and visual inspection can be made for loose joints, spikes, and proper gauge.
- 21) Whenever practical, rail cars will be positioned so the brakes are on the back of the cars when men are required to operate hand brakes.

(g) Loading and haulage equipment; inspection and maintenance.

- (1) Mobile loading and haulage equipment shall be inspected by a person competent to conduct such inspections before such equipment is placed in operation. Equipment defects affecting safety shall be recorded and reported to the operator, and such defects shall be repaired. Such records shall be available for inspection by State Mine Inspectors and the authorized representative of the miners.
- 2) Carriers on aerial tramways, including loading and unloading mechanisms, shall be inspected each shift; brakes shall be inspected daily; ropes and supports shall be inspected as recommended by the manufacturer or as physical conditions warrant. Equipment defects affecting safety shall be reported to the mine operator, and such defects shall be repaired.
- 3) Equipment defects affecting safety shall be corrected before the equipment is used.

h) Loading and haulage equipment; operation.

- 1) Vehicles shall follow at a safe distance; passing is prohibited on hills, curves, at intersections, at railroads, in congested areas, and other areas where clearance and visibility is inadequate.
- 2) Mobile equipment operators shall have full control of the equipment while it is in motion.
- 3) Equipment operating speeds shall be prudent and consistent with conditions of roadway, grades, clearance, visibility, traffic, and the type of equipment used.
- 4) Cabs of mobile equipment shall be kept free of extraneous materials.
- 5) Operators shall sit facing the direction of travel while operating equipment with dual controls.
- 6) When an equipment operator is present, men (shall notify) him before getting on or off equipment.
- 7) Equipment operators shall be certain, by signal or other means, that all persons are clear before starting or moving equipment.
- 8) Where possible, aerial tramways shall not be started until the tramway operator has ascertained that everyone is in the clear.
- 9) Dust control measures shall be taken where dust significantly reduces visibility of equipment operators.
- 10) Dippers, buckets, loading booms, or heavy suspended loads shall not be swung over the cabs of haulage vehicles until the drivers are out of the cabs and in safe locations, unless the trucks are designed specifically to protect the drivers from falling material.
- 11) Men shall not work or pass under the buckets or booms of loaders in operation.
- 12) Electrically powered mobile equipment shall not be left unattended unless the master switch is in the off position, all operating controls are in the neutral position, and the brakes are set or other equivalent precautions are taken against rolling.
- 13) Mobile equipment shall not be left unattended unless the brakes are set. The wheels shall be turned into a bank or berm, or shall be blocked, when such equipment is parked on a grade.
- 14) Lights, flares, or other warning devices shall be posted when parked equipment creates a hazard to vehicular traffic.
- 15) Dippers, buckets, scraper blades, and similar movable parts shall be secured or lowered to the ground when not in use.
- 16) Shovel trailing cables shall not be moved with the shovel dipper unless cable slings or sleds are used.
- 17) Equipment which is to be hauled shall be loaded and protected so as to prevent sliding or spillage.
- 18) When moving between work areas, the equipment shall be secured in the travel position.

- (19) Any load extending more than four (4) feet beyond the rear of the vehicle body should be marked clearly with a red flag by day and a red light at night.
- 20) Tow bars shall be used to tow heavy equipment and a safety chain shall be used in conjunction with each tow bar. When heavy equipment is to be towed, the towing vehicle shall be of suitable weight and strength to maintain safe control of the load.
- 21) Railroad cars shall be kept under control at all times by the car dropper. Cars shall be dropped at a safe rate and in a manner that will insure that the car dropper maintains a safe position while working and traveling around the cars.
- 22) Railroad cars shall not be coupled or uncoupled manually unless the railroad and cars are so designed to eliminate any hazard from coupling or uncoupling cars. All persons manually applying brakes on moving rail cars shall step to the side ladder of the car before coupling.
- 23) Persons shall wear safety belts when dropping railroad cars.
- 24) Railcars shall not be left on sidetracks unless ample clearance is provided for traffic on adjacent tracks.
- 25) Parked railcars, unless held effectively by brakes, shall be blocked securely.
- 26) Railroad cars and all trucks shall be trimmed properly when they have been loaded higher than the confines of their cargo space.
- 27) When the entire length of a conveyor is visible from the starting switch, the operator shall visually check to make certain that all persons are in the clear before starting the conveyor. When the entire length of the conveyor is not visible from the starting switch, a positive audible or visible warning system shall be installed and operated to warn persons that the conveyor will be started. Conveyors shall be locked out or otherwise rendered inoperable and tagged with a "Do Not Operate" tag prior to repairs.
- 28) Unguarded conveyors with walkways shall be equipped with emergency stop devices or cords along their full length.
Conveyor emergency stop switches shall be designed so that a conveyor cannot be started until the activating stop switch has been reset to the running or "on" position. All conveyor controls, including emergency stop devices, shall be distinctly identified.
- (29) Adequate backstops or brakes shall be installed on inclined conveyor drive units to prevent conveyors from running in reverse if a hazard to personnel would be caused.
- 30) Aerial tram conveyor buckets shall not be overloaded, and feed shall be regulated to prevent spillage.
- (31) Cabs of mobile equipment shall be provided with a properly secured extra seat where possible when training people to operate such equipment.

the Twelfth edition, effective January 1, 1990 and does not include any later editions or references); and

E) the welded area must be sounded with an ultrasonic testing instrument to determine the adequacy of the weld before the rim is returned to service.

(12) here shall be supplied at all tire airing stations a clip-on air chuck with no less than ten (10) feet of air hose from the valve stem to the inflator gauge.

13) No person shall be allowed to inflate tires at any mines from oxygen or acetylene supply tanks.

14) Tires greater than twenty (20) inches inside diameter, if stored lying flat shall be stored to a depth no greater than two tires or five feet. Tires greater than twenty (20) inches inside diameter, if stored upright, must be secured to prevent falling.

j) Dumping facilities.

1) Dumping locations and haulage roads shall be kept reasonably free of water, debris, and spillage.

(2) Where the ground at a dumping place may fail to support the weight of a loaded dump truck, trucks shall be dumped a safe distance back from the edge of the bank.

3) Adequate protection shall be provided at dumping locations where persons may be endangered by falling material.

4) Grizzlies, grates, and other sizing devices at dump and transfer points shall be anchored securely in place.

(5) Where trucks are backing into dumping or loading position and the operator cannot see openings or edges of coal rib or bench, another person shall be assigned to direct trucks. Lights shall be used at night to help direct the truck operator. A person used to spot trucks shall be well in the clear.

6) When hopper is not being used, proper barricades will be installed to protect anyone from falling or driving into opening.

(Source: Amended at 15 Ill. Reg. 1006, effective January 14, 1991)

Section 220.170 Miscellaneous

a) Communication in work areas.

No employee shall be assigned, allowed or required to perform work alone in any area where conditions exist that would endanger his safety unless he can communicate with other, can be heard, or can or will be seen at predetermined intervals.

b) Emergency communications; requirements.

- 1) Each operator of a surface coal mine shall establish and maintain a communication system from the mine to the nearest point of medical assistance for use in an emergency.
- 2) The emergency communication system required to be maintained under paragraph (b)(1) of this Section may be established by telephone or radio transmission or by any other means of prompt communication to any facility (for example, the local sheriff, the State Highway Patrol, or local hospital) which has available the means of communication with the person or persons providing emergency medical assistance or transportation in accordance with the provisions of paragraph (b)(1) of this Section.
- c) Arrangements for emergency medical assistance and transportation for injured person; reporting requirements; posting requirements.
 - 1) Each operator of a surface coal mine shall make arrangements with a licensed physician, medical service, medical clinic, or hospital to provide twenty-four (24) hour emergency medical assistance for any person injured at the mine.
 - 2) Each operator shall make arrangements with an ambulance service, or otherwise provide for twenty-four (24) hour emergency transportation for any person injured at the mine.
 - 3) Each operator shall, immediately after making an arrangement required under the provisions of paragraphs (b)(1) and (b)(2) of this Section, of immediately after any change, of such agreement, post at appropriate places at the mine the names, titles, addresses, and telephone numbers of all persons or services currently available under such arrangements to provide medical assistance and transportation at the mine.
 - 4) Wherever possible the shortest access route from public roads shall be provided and maintained to and from work areas for the ambulance service.
- d) First aid training; supervisory employees.

Each operator of a surface coal mine shall conduct a first aid training course for selected supervisory employees at the mine and report on such training course in writing to the representative of the Department.
- e) First aid training program; Availability of instruction to all miners.

Each operator of a surface coal mine shall make available to all miners employed in the mine a course of instruction in first aid conducted by the operator or under the auspices of the operator, and such a course of instruction shall be made available to newly employed miners within six (6) months after the date of employment.
- f) First aid training program; retraining of supervisory employees; availability to all miners.

Each operator of a surface coal mine shall establish and maintain a program of instruction with respect to the safety regulations and procedures to be followed at the mine and shall publish and distribute to each employee, and post in conspicuous places throughout the mine, all such safety regulations and procedures established in accordance with the provisions of the Section.

j) Safety training; inexperienced employees.

New employees shall be indoctrinated in safety rules and safe work procedures and inexperienced employees shall not be assigned to work duties until they have been trained thoroughly in safe work procedures related to the assigned work duties.

k) Protective clothing; requirements.

Each employee working in a surface coal mine or in the surface work areas of an underground coal mine shall be required to wear protective clothing and devices as indicated below:

1) Protective clothing or equipment and face-shields or goggles shall be worn when welding, cutting, or working with molten metal or when other hazards to the eyes exist;

2) Suitable protective clothing to cover the entire body when handling corrosive or toxic substances or other materials which might cause injury to skin;

3) Protective gloves when handling materials or performing work which might cause injury to the hands; however, gloves shall not be worn where they would create a greater hazard by becoming entangled in the moving parts of equipment;

4) A suitable hard hat or hard cap when in or around a mine or plant. If a hard hat or hard cap is painted, nonmetallic based paint shall be used;

5) Suitable protective footwear;

6) Snug-fitting clothing without loose ends when working around moving machinery or equipment;

7) Safety belts and lines where there is danger of falling; a second person shall tend the lifeline when bins, tanks, or other dangerous areas are entered;

8) Lifejackets or belts where there is danger from falling into water; and

9) Seatbelts in a vehicle where there is a danger of overturning and where roll protection is provided.

l) Distinctively colored hard hats or hard caps; identification for newly employed, inexperienced miners. Hard hats or hard caps distinctively different in color from those worn by experienced miners shall be worn at all times by each newly employed, inexperienced miner when working in or around a mine or plant for at least one (1) year from the date of his initial employment as a miner.

m) Smoking prohibition.

No person shall smoke or use an open flame where such practice may cause a fire or explosion.

- n) Reopening mines; notification; inspection prior to mining.
Prior to reopening any surface coal mine after it has been abandoned or declared inactive by the operator, the operator shall notify the Director. An inspection of the entire mine shall be completed by an authorized representative of the Department before any mining operations in such mine are instituted.
- o) Daily inspection of surface coal mine; certified or competent person; reports of inspection.
- 1) All inspections, examinations, or checks required by these rules, or the statutes of the State of Illinois shall be made by a certified person. At least once during each working shift, or more often if necessary for safety, each active working area and each active surface installation shall be examined by a certified person designated by the operator to conduct such examinations for hazardous conditions. Any hazardous conditions noted during such examinations shall be reported to the operator and shall be corrected by the operator.
 - 2) If any hazardous condition noted during an examination conducted in accordance with paragraph (o)(1) of this Section creates an imminent danger, the person conducting such examination shall notify the operator and the operator shall withdraw all persons from the area affected, except those persons necessary to correct the danger, until the danger is abated.
 - 3) After each examination, inspection, or check conducted in accordance with the provisions of paragraph (o)(1) of this Section, each certified person who conducted all or any part of the examination required shall enter and sign with ink or indelible pencil in an approved book the date and a report of the condition of the mine or any area of the mine which he has inspected together with a report of the nature and location of any hazardous condition found to be present at the mine. The book in which such entries are made shall be kept in an area at the mine designated by the operator to minimize the danger of destruction by fire or other hazard.
 - 4) All examination reports recorded in accordance with the provisions of paragraph (o)(3) of this Section shall include a report of the action taken to abate hazardous conditions and shall be countersigned each day by at least one (1) of the following certified persons:
 - A) A Surface Mine Foreman;
 - B) The Assistant Superintendent of the mine;
 - C) The Superintendent of the mine; or
 - D) The person designated by the operator as responsible for health and safety at the mine.
- p) Major repair work: supervision.

~~When (major repair work)s being done, (a company supervisor) will be present to see and direct the work in a safe manner. The supervisor and the user shall inspect all tools, slings, chains, and other equipment being used to perform the work to see they are in safe working condition and free of safety defects.~~

q) Marine operations and equipment.

- 1) All operators shall have sufficient personnel available to conduct water rescue operations when persons are working near water. Such personnel shall be trained in the Standard United States Coast Guard approved water rescue operations, and capable of operating all the rescue equipment required by these, and any other, applicable federal and state statutes and rules.
- 2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, a safe walkway shall be provided.
- 3) Decks or other working surfaces shall be maintained in a safe condition.
- 4) Persons shall not pass fore or aft, over, or around deckloads, unless a safe passage is provided.
- 5) The employer shall have in the vicinity of the barge at least one (1) U.S. Coast Guard approved thirty (30) inch life ring with not less than ninety (90) feet of line attached, and at least one (1) portable or permanent ladder which will reach from the top of the apron to the surface of the water shall be provided in the vicinity of the barge.
- 6) Surface of the barge where men work and walk must be clear of snow, ice, or any other substance that might make footing unsafe.
- 7) In certain situations where the boat pilot cannot see the deck hands or hand, a means of communication must be established.
- 8) A boat and motor with safety equipment necessary to rescue a person or persons, will be kept in ready condition at all times when mining operations are conducted in or adjacent to navigable waterways.
- 9) The person assigned by the operator to supervise mining operations conducted in or adjacent to navigable waterways will not permit anyone on the towboat or barges without a U.S. Coast Guard-approved life jacket. Such assigned person will not move the towboat until all persons comply.

r) State mine inspectors; notification of miners' representative prior to inspection and posting of findings and recommendations. On each visit to a mine, the State Mine Inspector shall notify a representative of the miners that he is there to make an inspection so that the miners' representatives may accompany him if they so desire. Following each inspection, the Inspector shall meet with management and representatives of the miners at the request of either or both of them to discuss his findings and recommendations. His findings and recommendations together with the time provided to comply shall be posted in a conspicuous place following each inspection. The length of time to comply will be based upon the nature and severity of the infraction(s) noted.